



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

**Margaret Lee
Dba Lee's Ready-Mixed Concrete
Penobscot County
Millinocket, Maine
A-169-71-K-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

Margaret Lee, dba Lee's Ready-Mixed Concrete (Lee's Concrete) was issued Air Emission License A-169-71-I-R/A on 05/24/2013, for the operation of emission sources associated with their concrete batch plant located at 157 Main Road, East Millinocket, Maine and portable crushed stone and gravel operation. The license was subsequently amended on 10/26/2015 (A-169-71-J-A) to license the replacement of their concrete batch plant.

Lee's Concrete has requested a an amendment to their license in order to replace the Jaw Crusher and Generator #2 with a 400 ton/hr portable crusher and associated 1.6 MMBtu/hr engine.

The main office is located at 936 Central Street, Millinocket, Maine.

B. Emission Equipment

The following equipment is addressed in this Air Emission License Amendment:

Rock Crushers

<u>Designation</u>	<u>Powered</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
Jaw Crusher 2	Generator #3	400	2014	Spray Nozzles

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

Generator Units

<u>Unit ID</u>	<u>Input Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Output Capacity (HP)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>
Generator #3	1.6	11.7	225	distillate fuel, 0.0015%	2014

C. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emissions increases exceed the "Significant Emissions" levels as defined in the Department's *Definitions Regulation*, 06-096 CMR 100 (as amended). The emissions increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emissions Levels</u>
PM	0.5	1.4	+ 0.9	100
PM ₁₀	0.5	1.4	+ 0.9	100
SO ₂	0.01	0.01	--	100
NO _x	19.9	19.9	--	100
CO	4.3	4.3	--	100
VOC	1.6	1.6	--	50

This modification is determined to be a minor modification and has been processed as such. Because future total licensed allowed emissions do not exceed the significant emissions levels, this modification does not make the minor source a major source, in accordance with definitions in 06-096 CMR 100.

II. BEST PRACTICAL TREATMENT

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Jaw Crusher 2

The new rock crusher, Jaw Crusher 2 is a portable unit that was manufactured in 2014. It has a rated throughput capacity of 400 tons/hr.

1. BACT/BPT Findings

The regulated pollutant from Jaw Crusher 2 is particulate matter emissions. To meet the requirements of BACT/BPT for control of particulate matter emissions from the rock crusher, Lee's Concrete shall maintain water sprays on Jaw Crusher 2 and operate as needed to control visible emissions. Visible emissions from the rock crusher shall be limited to no greater than 10% opacity on a six-minute block average basis.

2. New Source Performance Standards

Because Jaw Crusher 2 is portable, has a rated capacity greater than 150 tons/hour, and was manufactured after August 31, 1983, it is subject to the federal regulation New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants*. [40 CFR §60.670(c)]

40 CFR Part 60, Subpart OOO, §60.675 requires that Lee's Concrete conduct an initial performance test on Jaw Crusher 2.

Requirements of 40 CFR Part 60, Subpart OOO:

a. Monitoring Requirements:

- (1) Lee's Concrete shall maintain records detailing the maintenance on particulate matter control equipment including spray nozzles.
- (2) Lee's concrete shall perform monthly inspections of any water sprays to ensure water is flowing to the correct locations and initiate corrective action within 24 hours if water is found to not be flowing properly.
- (3) Records of the date of each inspection and any corrective action required shall be included in the maintenance records. The maintenance records shall be kept on-site at the rock crushing location. [40 CFR §60.674(b)]

b. Testing Requirements:

- (1) An initial performance test must be completed within 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup of the unit. If the initial performance test for a facility falls within a seasonal shutdown, then with approval from the Department, the initial performance test may be postponed until no later than 60 calendar days after resuming operation of the affected equipment. [40 CFR §60.672(b)]
- (2) Each performance test shall be done using the methods set forth in 40 CFR Part 60, Subpart OOO, §60.675. [40 CFR §60.675(c) and 06-096 CMR 115, BACT/BPT]
- (3) Lee's Concrete shall submit a test notice to the Department and the EPA at least seven days prior to conducting a performance test. [40 CFR §60.675(g) and 06-096 CMR 115, BACT/BPT]

c. Reporting and Recordkeeping Requirements:

Pursuant to 40 CFR Part 60, Subparts A and OOO, Lee's Concrete shall comply with the notification and recordkeeping requirements of 40 CFR §60.676 and §60.7, except for Section (a)(2) of 60.7 for Jaw Crusher 2. [40 CFR §§60.676(b), (f), and (i)]

C. Generator #3

Generator #3 is a portable engine used to power Jaw Crusher 2. Generator #3 has a maximum capacity of 1.6 MMBtu/hr (225 HP), firing distillate fuel, and it was manufactured in 2014.

1. BACT Findings

The BACT emission limits for the generator were based on the following:

PM, PM ₁₀	-	0.31 lb/MMBtu from 06-096 CMR 103
SO ₂	-	0.0015 lb/MMBtu based on the combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	-	4.41 lb/MMBtu from AP-42 dated 10/96
CO	-	0.95 lb/MMBtu from AP-42 dated 10/96
VOC	-	0.35 lb/MMBtu from AP-42 dated 10/96
Visible Emissions	-	06-096 CMR 101 and 06-096 CMR 115

The BACT emission limits for the generator are the following:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #3 (1.6 MMBtu/hr) Distillate fuel	0.50	0.50	0.01	7.06	1.52	0.58

Visible emissions from the distillate fuel-fired generator shall not exceed 20% opacity on a six-minute block average basis.

Because Generator #3 replaces Generator #2, the facility's established fuel limit of 66,000 gallons per calendar year of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight) will remain in effect.

2. New Source Performance Standards

Generator #3 is considered a non-road engine, as opposed to a stationary engine, since Generator #3 is portable and will be moved to various sites with Jaw Crusher 2. Therefore, Generator #3 is not subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of*

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Performance for Stationary Compression Ignition Internal Combustion Engines. [40 CFR §60.4200]

3. National Emission Standards for Hazardous Air Pollutants

Generator #3 is considered a non-road engine, as opposed to a stationary engine, since it is portable and will be moved to various sites with Jaw Crusher 2. Therefore, Generator #3 is not subject to 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. The definition in 40 CFR §1068.30 states that a non-road engine is an internal combustion engine that meets certain criteria, including: "Portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform." The regulation, 40 CFR §1068.30 further states that an engine is not a non-road engine if it remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. An engine located at a seasonal source (a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year) is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. [40 CFR §63.6585]

D. Annual Emissions

1. Total Annual Emissions

Lee's Concrete shall be restricted to the following annual emissions on a calendar year basis. The tons per year limits were calculated based on a fuel limit of 66,000 gallons per year:

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Total TPY</u>
PM	1.4
PM₁₀	1.4
SO₂	0.01
NO_x	19.9
CO	4.3
VOC	1.6

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

The quantity of CO₂e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limit;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

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ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License Amendment A-169-71-K-A, subject to the conditions found in Air Emission License A-169-71-I-R/A, in amendment A-169-71-J-A, and the following conditions.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

Specific Condition (17) from Air Emissions License A-169-I-R/A, dated 05/24/2013, is to be replaced by the following condition:

(17) Rock Crushers

- A. Lee's Concrete shall install and maintain spray nozzles for particulate control on Cone Crusher and Jaw Crusher 2 and operate them as necessary to limit visible emissions to no greater than 10% opacity on a six-minute block average basis. [06-096 CMR 115, BPT and 06-096 CMR 101]
- B. Lee's Concrete shall maintain records detailing and quantifying the hours of operation on a daily basis for all rock crushers. The operation records shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]
- C. Lee's Concrete shall maintain records detailing the maintenance on particulate matter control equipment (including spray nozzles). Lee's Concrete shall perform monthly inspections of any water sprays to ensure water is flowing to the correct locations and initiate corrective action within 24 hours if water is found to not be flowing properly. Records of the date of each inspection and any corrective action required shall be included in the maintenance records. The maintenance records shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT and 40 CFR §60.674(b)]

- D. Lee's Concrete shall either have an initial performance test performed on Jaw Crusher 2 per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675 or provide documentation to the Department that the initial performance test was previously performed. [06-096 CMR 115, BPT and 40 CFR §60.675(c)]
- E. An initial performance test for Jaw Crusher 2 must be completed within 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup of the unit. If the initial performance test for a facility falls within a seasonal shutdown, then with approval from the Department, the initial performance test may be postponed until no later than 60 calendar days after resuming operation of the affected equipment. [40 CFR §60.672(b) and 06-096 CMR 115, BPT]
- F. Lee's Concrete shall submit a test notice to the Department and the EPA at least seven days prior to conducting a performance test. [06-096 CMR 115, BPT and 40 CFR §60.675(g)]
- G. The Cone Crusher shall not be attached or clamped via cable, chain, turnbuckle, bolt, or other means (except electrical connections) to any anchor, slab, or structure (including bedrock) that must be removed prior to transportation. [06-096 CMR 115, BPT and 40 CFR §60.670(c)(2)]
- H. Pursuant to 40 CFR Part 60, Subparts A and OOO, Lee's Concrete shall comply with the notification and recordkeeping requirements of 40 CFR §60.676 and §60.7, except for Section (a)(2) of 60.7 for Jaw Crusher 2. [40 CFR §§60.676(b), (f), and (i)]

Specific Condition (18) from Air Emission License A-169-I-R/A, dated 05/24/2013, is to be replaced by the following condition:

(18) Generators #1 and #3

A. Fuel Use

1. Generators #1 and #3 are licensed to fire distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight). [06-096 CMR 115, BACT/BPT]
2. Total fuel use for the generators shall not exceed 66,000 gallons per calendar year of distillate fuel. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

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B. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Generator #1 (2.0 MMBtu/hr) distillate fuel	0.24	0.24	0.01	8.82	1.90	0.70
Generator #3 (1.6 MMBtu/hr) distillate fuel	0.50	0.50	0.01	7.06	1.52	0.58

C. Visible emissions from each generator shall not exceed 20% opacity on a six-minute block average basis. [06-096 CMR 101 and 06-096 CMR 115]

DONE AND DATED IN AUGUSTA, MAINE THIS 26 DAY OF August, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-169-71-I-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 07/25/2016

Date of application acceptance: 08/09/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Colby Fortier-Brown, Bureau of Air Quality.

